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ONTARIO
Department of Education

# Courses of Study

## Grades IX, X, XI, XII and XIII

# Physical and Health Education

## and

# Cadet Training

Reprinted from the Circular printed in July 1944 with some changes, particularly in the Cadet Training section.

Issued by Authority of
The Minister of Education

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# Physical and Health Education and Cadet Training

## GRADE PLACEMENT AND TIME ALLOTMENT OF SUBJECTS—BOYS' COURSE

| GRADE IX | Periods | GRADE X | Periods | GRADE XI | Periods | GRADE XII | Periods | GRADE XIII | Periods |
|---|---|---|---|---|---|---|---|---|---|
| Physical Education, incl. Basic Drill | 102 | Physical Education, incl. Basic Drill | 102 | Physical Education, incl. Basic Drill | 102 | Physical Education, incl. Basic Drill | 102 | Physical Education, incl. Basic Drill | 102 |
| Health Education, incl. Safety | 68 | Health Education | 34 | Health Education | 34 | Health Education, incl. First Aid | 34 | | |
| | | Other Cadet Training: Fundamentals | 12 | Other Cadet Training: Fundamentals | 12 | Other Cadet Training: Fundamentals | 12 | | |
| | | Two or more of: Small Arms Training; Knots, Bends and Hitches; Woodcraft; History and Development of Weapons | 22 | Map Using; Small Arms Training | 22 | Two of: Navigation; Meteorology; Weapon Training; Signals; Basic Radio Theory and Equipment | 22 | | |
| | | | 34 | | 34 | | 34 | | |

NOTE 1.—In schools where facilities are available, range practice should be carried out regularly after school in all grades.
2.—A choice of subjects is provided to suit local conditions.
3.—The number of periods are suggested, and may be amended within the general limits.
4.—Where possible topics should be correlated with other subjects, and teachers assigned to portions of the course relevant to their own subjects.

## GRADE PLACEMENT AND TIME ALLOTMENT OF SUBJECTS—GIRLS' COURSE

| GRADE IX | Periods | GRADE X | Periods | GRADE XI | Periods | GRADE XII | Periods | GRADE XIII | Periods |
|---|---|---|---|---|---|---|---|---|---|
| Physical Education | 102 | Physical Education | 102 | Physical Education | 102 | Physical Education | 102 | Physical Education | 102 |
| Health Education, incl. Safety | 68 | Health Education: Physiology; Nutrition; Communicable Diseases | 68 | Health Education: Healthful Living; First Aid *OR* Home Nursing | 68 | Health Education: Child Study; First Aid *OR* Home Nursing *OR* Community Health | 68 | | |



Ministry of Education, Ontario
Historical Collection

COURSES OF STUDY

Grades IX, X, XI, XII and XIII

in

COLLEGIATE INSTITUTES, HIGH, VOCATIONAL AND CONTINUATION SCHOOLS

# Physical and Health Education and Cadet Training

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The course in Physical and Health Education and Cadet Training covers, in general, the work previously included in the courses in Defence Training, Health and Physical Education. With the approval of the Minister of Education and the Ministers of National Defence for the Navy, the Army and the Air Force, topics have been included in the course for boys which cover certain of the training required by the cadet programmes of the three services. The subjects included in this course are obligatory for all secondary schools of the Province, except where exemption has been granted by the Minister of Education.

# PHYSICAL EDUCATION COURSE
## in
## Grades IX, X, XI, XII, and XIII

### Objectives

1. To promote the normal development of the pupil through wholesome physical activity.
2. To attain the physiological objectives of organic vigour, joint mobility, muscular strength and co-ordination through a graded programme of physical activities.
3. To develop a variety of recreational skills which will be continued in leisure time during school years and in adult life.
4. To promote habits of good citizenship in pupils through situations that arise in the activity programme.
5. To follow the instructions of the medical service for the correction of physical defects.

### Principles

1. A medical examination of every pupil should be made at regular intervals in order to grade pupils for the physical activity programme and to safeguard their health.
2. An orthopaedic examination of all pupils should be made at the beginning of each academic year.
3. The activities of the programme should be based upon the sex, needs, interests and capacities of the pupils.
4. Pupil leadership should be used as much as possible and distributed as widely as possible, as a means of developing self-discipline and self-reliance.
5. The programme should be carried on out of doors whenever the weather and facilities permit.
6. Inter-school leagues are not recommended for girls.
7. Inter-school leagues which necessitate more than five games in any one sport in any season are not recommended for boys.
8. Inter-school games and competitions have a definite value for both boys and girls provided they do not monopolize the school recreational facilities and the teachers' time and interest, and provided that every pupil in the school has adequate opportunity to participate in intra-mural games. The inter-school league, however, too often introduces conditions and practices which are educationally unsound.
9. The instructor in physical education should be responsible, under the direction of the Principal, for the curricular and extra-curricular programme in physical education.

10. Properly supervised recreation, shared by boys and girls together, should be promoted in such activities as badminton, tennis, ballroom and folk dancing.
11. Pupils should wear suitable costumes for the activity programme.

## THE GRADED ACTIVITY PROGRAMME FOR BOYS

### All Year Round

**Gymnastics**

Marching; exercises; general activity—tumbling, stunts, pyramids; heavy apparatus—horse, vaulting box, buck, low bar, wall bars, forms, ropes.

**Games**

Low organization: team—volleyball; hit-pin baseball; lead-up games for lacrosse, basketball, hockey, rugby; individual—deck tennis, table tennis; handball.

**Swimming**

Strokes—crawl, back crawl, back, side, breast; diving—plain header, jackknife, back, surface, racers' plunge; games; land drill; life saving —emergency measures.

**Outdoor Activities**

Hiking, campcraft, nature lore.

### Autumn or Spring Term

**Games**

Team—baseball, cricket, lacrosse, soccer, touch rugby; individual—tennis, quoits; track and field—Grade IX—100-yard dash, ¼-mile relay, 90-yard low hurdles (7), high jump, broad jump, hop, step and jump, cross-country run (not more than 2 miles). Grade X—120-yard low hurdles, 8-lb.shot, pole vault, additional instruction in Grade IX events.

### Winter Term

**Games**

Team—basketball, hockey, indoor hockey; individual—boxing, wrestling, fencing.

**Outdoor Activities**

Winter sports.

## OUTLINE OF COURSE FOR BOYS
## Grades IX and X

**Basic Drill** (See Cadet Training Course)

**Gymnastics**

1. Exercises.

Teachers should prepare a minimum of three gymnastic tables for each grade, and the exercises should be selected from any of the books listed under this section. The following sequence of exercises is suggested as a guide:

Leg, arm and neck movements; trunk movements (lateral, abdominal and dorsal); special movements—posture, in pairs, relaxation or balance, foot exercises; step march, leg or easy jump.

2. General Activities.

The following apparatus exercises, arranged in teaching order, are considered suitable for pupils in Grades IX and X. It may not be possible to teach all these activities to all classes, and where this is the case a suitable selection should be made from each section.

(1) Tumbling, Stunts and Pyramids.

(a) Individual—forward rolls with variations; backward rolls with variations; diving with forward rolls; head stand with variations; chest rolls; tension drop; cartwheel and round off; headsprings; handsprings; upstarts with variations; short combinations of voluntary movements: (i) front dive, twist and backroll, (ii) tension drop, jump through hands, back roll passing through handstand position; stunts.

(b) Couple—double rolls forward and backward; elephant walk (with rider); cradle rock; back to back, lock hands and roll over; handstand with assistance; thigh mount; mount to stand on shoulders; knee shoulder handsprings; knee shoulder hand balance; mount to standing balance on feet; ankle throws (pull up from floor); stunts.

(c) Group—diving with front rolls in groups of three; fundamental pyramid positions in threes, fours, fives; easy combinations, the three-man fan, human bar, etc.; pyramids—large groups in various combinations.

(2) Heavy Apparatus.

(a) Vaulting horse (without pommels)—easy mounts and dismounts; vaults—flank, front, wolf, screw, rear, squat, courage; pyramids; stunts.

(b) Buck—running straddle vault, both hands, for distance and with turns; running straddle vault with one hand; kneel on, jump off (courage vault); jump to stand on; high front vaults, left and right; pyramids; stunts.

(c) Low bar—fence vault; skin the cat; underswing with variations; back circle to front rest; forward circle; inverted hang, pull up to side seat; single knee circles, backward and forward; crotch circle; stunts.

## Games and Athletics

1. Games of Low Organization.
2. Team Games, and Track and Field Athletics.

These games and events will vary with local conditions, but are subject to the grade placement of activities previously outlined. The teacher should recognize that the enjoyment of playing the game is the primary objective, and the teaching of skills should be made to contribute to this end. "Lead-up" and practice games should be worked out for each activity.

## Swimming

The course in swimming must be adapted to local conditions. The primary objective is that every pupil may learn to swim. The number of beginners in the class will determine when and to what extent other exercises, such as diving and life saving, may be taught.

In schools where there are no swimming facilities, systematic instruction and drill on land should be given so that pupils will have a basis for practice when making use of natural facilities. All pupils should be trained to discriminate between safe and unsafe swimming conditions.

## Grades XI, XII and XIII

**Basic Drill** (See Cadet Training Course)

**Gymnastics**

1. Exercises.

Gymnastic training is fundamental in a programme of physical education and should lay a foundation of physical fitness on which other recreational and rhythmic activities can be built. Teachers should prepare a minimum of three gymnastic tables for each grade, and the exercises should be selected from any of the books listed under this section. These exercises should show a progression from the easy to the difficult throughout the year, so that the monotonous repetition of known movements is avoided and the pupils are encouraged to accomplish more advanced work. The following sequence of exercises is suggested as a guide:

Leg, arm and neck movements; trunk movements (lateral, abdominal and dorsal); special movements—posture, in pairs, relaxation or balance, foot exercises; step march, leg or easy jump.

2. General Activities.

The following apparatus exercises, arranged in teaching order, are considered suitable for pupils in Grades XI and XII. It may not be possible to teach all these activities to all classes, and where this is the case a suitable selection should be made from each section. The safety teaching of Grade X should be emphasized in these grades where the hazards increase with the difficulty of the movement. The pupils should be made to appreciate the dangers of working upon apparatus without safety men in position to protect them from falls. The responsibility should be placed on the performer to wait until these men are properly stationed before attempting any movement.

(1) Tumbling, Stunts and Pyramids. Review Grades IX and X.

(2) Heavy Apparatus.

(a) Vaulting horse (without pommels). Review Grades IX and X.

(b) Buck. Review Grades IX and X.

(c) Low bar. Review Grades IX and X.

(d) Pommel horse—mounts and dismounts; vaults—flank, front, wolf, screw, rear, squat, courage; front and rear scissors from cross-riding seat; front rest, easy leg circles; neck spring; side scissors in saddle; short combinations of voluntary movements; pyramids; stunts.

(e) Parallel bars—travel—cross support, walk, jump; outside seats; straddle seats; mounts—side and end; dismounts—side and end; front and rear vaults with turns; shoulder rolls and stands; cut-offs with variations; upstarts; short combinations of voluntary movements; pyramids; stunts.

(f) High bar—"skin the cat"; inverted hang, pull up to side sitting position on the bar; chin the bar; side hang, jump to change

of grasp; back circle to front (rest) support; single knee swing up; long underswing from front (rest) support; single knee circles, forward and backward; crotch circles forward and backward; swinging in the hang position and fundamentals of the upstart; pyramids; stunts.

(g) Wall bars, forms and ropes. Review Grades IX and X.

## Games and Athletics

1. Games of Low Organization.

2. Team Games.

The following games will vary with local conditions, but as a general rule the outdoor programme of the fall term should not be repeated in the spring. The teacher should recognize that the enjoyment of playing the game is the primary objective, and the teaching of skills should be made to contribute to this end. "Lead-up" and practice games should be worked out for each activity.

Volleyball; hockey; baseball; lacrosse; touch rugby; basketball; indoor hockey; cricket; soccer

3. Individual Games.

In the senior grades, individual games assume greater importance, as it is these games which are continued in adult life.

Badminton; deck tennis, table tennis; handball; tennis; quoits or horseshoes; boxing; wrestling; fencing.

4. Track and Field Athletics

Review Grades IX and X with these additional events:

High hurdles; javelin throw; hurling the discus; cross-country run (not more than 4 miles).

## Swimming

The course in swimming must be adapted to local conditions. The primary objective—that every pupil may learn to swim—should have been accomplished by the end of Grade X. In Grades XI and XII emphasis should be placed on perfection of strokes, additional dives, water safety, and life-saving methods and procedures.

In schools where there are no swimming facilities, systematic instruction and drill on land should be given in life-saving methods and water safety.

1. Strokes:

Crawl; back stroke; breast stroke; back crawl; side stroke; the life-saving kick.

2. Diving:

Plain header; back; racers' plunge; jackknife; surface.

3. Games.

4. Land Drill.

5. Life Saving—emergency measures.

### Outdoor Activities

Hiking; nature lore; campcraft; winter sports.

### Social Dancing

Social dancing may be included in the Physical Education programme. Instruction in fundamental steps, positions and deportment will afford the pupil much pleasure and social profit throughout his lifetime. This instruction should be carried over into after-school gatherings.

## REFERENCE BOOKS

### GYMNASTICS

EXERCISES


Pederson, Richard, and Andreassen, Alfred: Primary Gymnastics for Boys—P. E. Publications, 54 Mitre Road, Glasgow, W.4, Scotland.

McDowell, Thomas: Gymnastic Movements—Oxford University Press (Clarke, Irwin & Co. Ltd.).

Board of Education: Reference Book of Gymnastic Training for Boys—His Majesty's Stationery Office, London, England (Wm. Dawson Subscription Service).


GENERAL ACTIVITIES


McCulloch, W. B.: Gymnastics, Tumbling and Pyramids—W. B. Saunders Co., Philadelphia.

Hawkin: Gymnastic Pyramids—Oxford University Press (Clarke, Irwin & Co. Ltd.).

Harby, S. F.: Tumbling for Students and Teachers—W. B. Saunders Co., Philadelphia (1932).

Machery and Richards: Pyramids Illustrated—A. S. Barnes & Co.

Zwarg, L. F.: Tumbling and Apparatus—John McVey, 1229 Arch St., Philadelphia.


### GAMES AND ATHLETICS


Staley, S. C.. Games, Contests and Relays—A. S. Barnes & Co.

Mason and Mitchell: Active Games and Contests—A. S. Barnes & Co.

Brandreth, W. G.: Canadian Book of Games—Ryerson Press.

Lambert, Ward: Practical Basketball—Athletic Journal Publishing Co., 6858 Glenwood Ave., Chicago.

Holman, Nat.: Winning Basketball—Charles Scribners' Sons (1932).

Fonseca, Lew: Baseball—Great Western Athletic Goods Co.

Fareaga: Volley Ball—A Man's Game.

Spalding Handbooks for various games—A. G. Spalding & Bros. of Canada Ltd.

Periodicals: The Scholastic Coach—250 East 43rd Street, New York City; The Athletic Journal—6858 Glenwood Ave., Chicago.

Mitchell, E. D.: Sport for Recreation—A. S. Barnes & Co.

Tisdall, R. M. N.: The Young Athlete—Blackie & Son (Ryerson Press)

Spalding Handbooks on Athletics—A.G. Spalding & Bros. of Canada Ltd.

Holmes: Movies on Paper—Wayne University, Detroit, Mich.

NOTE.—A. S. Barnes & Co. publications are sold by Copp Clark Co., Toronto.

## SWIMMING

Canadian Y.M.C.A.: Swimming, Diving and Life-saving Manual—40 College St., Toronto.

Royal Life-saving Society: Handbook of Instruction—Ontario Secretary-Treasurer, Mrs. J. M. Pretty, 206 St. Leonard's Ave., Toronto.

## OUTLINE OF COURSE FOR GIRLS

### Time Allotment for Grades

Grade IX.....three periods a week
Grade X.....three periods a week
Grade XI.....three periods a week
Grade XII.....three periods a week
Grade XIII.....three periods a week

### Time Allotment for Activities

| | | |
|---|---|---|
| Grades IX and X— | Gymnastics | 30 periods |
| | Rhythmics | 30 periods |
| | Games and Athletics | 30 periods |
| Grades XI and XII— | Gymnastics | 30 periods |
| | Rhythmics | 30 periods |
| | Games and Athletics | 30 periods |
| Grade XIII— | Gymnastics | 30 periods |
| | Rhythmics | 30 periods |
| | Games and Athletics | 30 periods |

NOTE.—If swimming is taught, the time for each of the above activities should be reduced.

## GYMNASTICS

The content of this course is not listed by grades, but is arranged in progression, with suggestions as to the grade or grades in which certain activities should be carried on.

1. Fundamental Movements:
   Movements of the trunk—dorsal, abdominal, lateral.
   Movements of the upper extremity—shoulder, arm, hand.
   Movements of the lower extremity—hip, leg, foot.
   Balance movements—standing, progressing.
   Locomotor movements:
      even—walking, running, jumping, leaping, hopping;
      uneven—sliding, skipping, galloping;
      derived—two-step, polka, schottische, waltz, mazurka.

NOTE.—The above movements include exercise from systems of gymnastics and modern dance. The teacher is expected to make up her own series of exercises according to the principles of the gymnastic table. The fundamental movements should be taught first in their simplest form and gradually progress in difficulty. These movements should suit the needs and capacities of the pupils and should be sufficiently difficult to present a constant challenge to them.

Progression is secured by combining movements, combining different ways of moving (sustained, swinging, suspended, percussive), increasing difficulty of starting positions, tempo and rhythmic pattern.

2. General Activities:
   (a) Jumps:
      Informal jumps (IX)—
         Giant strides, bob jumps, jumping obstacles, jumping to touch an object, skipping.

High jumps (IX–X)—

Standing—sideward, forward—with double take-off; scissors —with single take-off.

Running—oblique, forward—with single and double take-off.

Deep jumps (IX–XIII)—

Standing—forward, backward, sideward; turning—with single or double take-off.

Running—forward, sideward, oblique—with single take-off from form or sloping form; forward with double or single take-off from springboard.

Jumps with assistance (XI–XIII)—

One assistant—upward jump; upward jump with leg parting (in place, over obstacle).

Two assistants—upward jump to extension, jump with leg parting, with knee raising, with leg raising to long sitting (in place, travelling on floor, clearing obstacle).

(b) Introduction to vaults (IX–X):

Crouch jumps—

Jumps—on the spot, advancing, from side to side; over line, rope or form.

Stoop standing bob jumps (hand support on apparatus)—

Jump with hip lifting, leg parting, leg flexion to crouch (one, two, three forms; horse, box, buck).

Jump in crouched position, on and off, and over apparatus

Rests—

Front rest, knee rest, knee rest and forward dismount (courage vault), squat mount, upsprings, front rest with leg circling.

(c) Vaults (XI-XIII)—

Squat vault (slow and quick between), pommel, wolf, front, flank, stride, oblique.

(d) Pyramids (IX–XIII)—

Individual, couple, triple, etc.; positions suitable for pyramids.
Extended, circular, apparatus pyramids.

(e) Stunts (IX–XIII)—

Individual, couple and group stunts.

(f) Tumbling (IX–XIII)—

Rolls, handstand, headstand, balances

The following points should be noted:

1. Gymnastics is the basic course of the activity programme in the promotion of physical fitness. It provides that fundamental training in physical education which, in conjunction with the practice of sound hygiene, will produce physical well-being adequate for the demands of daily life. It should develop easy, co-ordinated movements and the ability to maintain good posture in walking, sitting or standing as well as in all forms of activity. It should lay a foundation of physical fitness and skill which will facilitate the learning of other skills, not only in the physical education programme but in all walks of life.

2. The lesson in gymnastics includes fundamental movements and general activities. Where this is not practicable owing to the shortness of the period, it is suggested that lessons be alternated between fundamental movements and general activities.

3. The ability to walk well with uniformity of speed, length of step and co-ordinated corporate movement should be stressed. This training can well be attained through gymnastic marching tactics which involve great variety in formation, stress natural posture, and economize in muscular and nervous energy. Precision in movement and the concentration necessary for accurate responses are desirable throughout the gymnastic programme, but "military drill" as such is undesirable and inappropriate for girls.

4. General activities such as jumps, vaults, etc., should be practiced in squads under pupil leaders trained in a leaders' class. The value of a leaders' class cannot be too strongly emphasized, since it develops the ability to lead and to assume responsibility. It also facilitates the teaching and practice of general activities.

5. In all general activities such as jumps, vaults and tumbling, where there is danger of falling, it is essential to have a trained assistant to stand by.

6. The same activities should be repeated and practised until there is improvement in form, control, precision and ease of movement, since this is definitely one means of progression.

7. The activities should increase in difficulty from Grades IX to XIII, and each year pupils should grow in skill and improve in posture.

8. There should be marked growth in self-discipline from year to year, and in the self-direction of activities in squads under pupil leadership. By Grade XII pupils should be able to conduct squad activities safely and efficiently with a minimum of supervision by the teacher.

9. Leadership in gymnastics should be further stressed in Grade XIII as a preparation for teacher training and leadership in community and industrial recreation.

10. Music adds to the interest and enjoyment of fundamental movements.

## Minimum Requirements

1. A minimum of 150 (40-minute) periods shall be devoted to gymnastics, Grades IX–XIII.

| | | Periods |
|---|---|---|
| Grade IX— | Marching, fundamental movements and general activities | 30 |
| Grade X— | Progression in the same activities | 30 |
| Grade XI— | Progression in the same activities | 30 |
| Grade XII— | Progression in the same activities | 30 |
| Grade XIII— | Progression in the same activities | 30 |
| | | 150 |

2. If swimming is included in the programme, the minimum number of required gymnastic periods may be reduced.

3. Where the optional periods in physical education are given, additional time should be devoted to gymnastics. In Grade XIII the equivalent of 10 periods should be allowed for leadership training.

4. It is suggested that ten lessons be devoted to one gymnastic table, which would include marching, fundamental movements and general activities.

## RHYTHMICS

1. Fundamental Movements:
   - Movements of the trunk—dorsal, abdominal, lateral.
   - Movements of the upper extremity—shoulder, arm, hand.
   - Movements of the lower extremity—hip, leg, foot.
   - Balance movements—standing, progressing.
   - Locomotor movements:
     - even—walking, running, jumping, leaping, hopping;
     - uneven—sliding, skipping, galloping;
     - derived—two step, polka, schottische, waltz, mazurka.

NOTE.—The above movements are the same as those used in the gymnastic course and serve as a preparation for the dances.

2. Fundamental Rhythms:
   - Phrasing.
   - Primary rhythm—duple, triple, quadruple time.
   - Secondary rhythm—divisions of the pulse or time pattern, e.g. resultant rhythm, syncopation, etc.
   - Musical forms:
     - Song form, A B A, A A B A; rondo, A B A C A D, etc.; theme and variations; canon.

3. Dances:
   - Folk dances:
     - American—round, circle, square, longways; English—circle, square, longways; Scotch; Irish; French; German; Scandinavian; European; Indian; Mexican.
   - National dances:
     - Scotch—Highland Fling, Sword Dance; English—Sailors' Hornpipe, Morris, Sword; Irish—Hornpipe, Reel, Jig; Italian—Tarantella; Mexican—Jarabe Tapatio; Hungarian—Czardas; Bavarian—Schuhplatteltanz.
   - Ballroom dancing:
     - Dance rhythms—fox-trot, waltz, tango.
     - Positions—closed, regular open, conversation, reverse open, left and right reverse open.
     - Steps—walk (slow, quick), side-step, box waltz, waltz, hesitation, two-step, grapevine, dip, balance, rocking step, canter walk, corté.
     - Combinations—developed from fundamentals.
   - Dance compositions:
     - Song forms; resultant rhythm; theme and variations; rondo; syncopation; character dances; tap dances; athletic dances.

The following points should be noted:

1. Participation in rhythmics should result in the joy and satisfaction of rhythmic self-expression.

2. The spirit and significance of the dance should be stressed before its form and technique.

3. The rhythmics lesson should provide a satisfying means of self-expression and should achieve the physiological objectives of the gymnastic lesson, e.g. organic vigour and co-ordination.

4. The rhythmics lesson should include fundamental movements, rhythms, a new dance and familiar dances.

5. In the rhythmics lesson based on a folk or national dance, the fundamental movements and rhythms should serve as a preparation for the teaching of a new dance. This can be achieved by analysis of the dance into its fundamentals, and use of these in the first part of the lesson.

6. In the rhythmics lesson in which a dance is composed, the fundamental movements and rhythms should serve as a preparation for the assignment for composition.

7. Each new dance learned should be regarded as an addition to a pupil's repertoire of dances which may be danced repeatedly for the social and rhythmic satisfaction inherent in them.

8. The teaching of folk and national dancing should include relevant material such as general characteristics of the type of dance, costumes and customs of the people.

9. Ballroom dancing should be made a co-educational activity, after the fundamentals have been mastered by each group.

10. Leadership in rhythmics should be stressed wherever possible, and particularly in Grade XIII as a preparation for teacher training and leadership in community and industrial recreation.

## Minimum Requirements

1. A minimum of 150 periods shall be devoted to rhythmics from Grades IX–XIII, i.e. 30 periods in each grade.

2. The course shall include at least two types of dance and may include all four.

3. The maximum time which may be devoted to each type of dance shall be as follows:

| | Periods |
|---|---|
| Folk Dance | 50 |
| National Dance | 50 |
| Ballroom Dance | 50 |
| Composition | 50 |

4. If swimming is included in the activity programme, the minimum number of required rhythmics periods shall be reduced.

5. Where the optional periods in physical education are given, additional time should be devoted to rhythmics. In Grade XIII, the equivalent of 10 periods should be allowed for leadership training.

## GAMES AND ATHLETICS

1. Games of Low Organization:
   - Group, relay and tag games.
   - Lead-up games:
     - Basketball type—captain ball, newcomb, nine-court basketball.
     - Hockey type—broom hockey.
     - Soccer type—corner kick, punch ball, rotation soccer.
     - Softball type—base crick, Danish rounders, hit pin baseball, kick baseball, long ball, soccer baseball.
     - Tennis type—deck tennis, paddle tennis, table tennis, wall tennis.
     - Volleyball type—ring volleyball.

2. Team Games:
   - Basketball:
     - Fundamental skills—
       - Catching and passing, shooting.
     - Individual tactics—
       - Starting, stopping, jumping, guarding, intercepting, bouncing, pivoting, feinting, juggling.
     - Team tactics—offensive and defensive play.
   - Volleyball:
     - Fundamental skills—
       - Volleying, serving, passing underhand and overhand, setting up—underhand and overhand, spiking, recovering net ball.
     - Team tactics—offensive and defensive play.
   - Field ball:
     - Fundamental skills—
       - Running, passing, throwing for goal.
     - Team tactics—offensive and defensive play.
   - Soccer:
     - Fundamental skills—
       - Kicking, stopping, heading, trapping, blocking.
     - Team tactics—offensive and defensive play.
   - Speedball:
     - Fundamental skills—
       - Soccer skills, punt, drop-kick, place-kick, dribble and pass, kick up.
     - Team tactics—offensive and defensive play.
   - Softball—
     - Fundamental skills—
       - Running, batting, catching, throwing, pitching.
     - Team tactics—offensive and defensive play.

3. Individual Games:
   - Tennis:
     - Fundamental skills—
       - The serve, forehand stroke, backhand stroke, volley.
     - Court tactics—singles and doubles games.

Badminton:

Fundamental skills—

The serve, forehand and backhand strokes—clear, drive, drop, smash.

Court tactics—singles and doubles games.

Archery:

Fundamental skills—

Stringing the bow, standing, nocking the arrow, drawing, holding and aiming, releasing the arrow.

Tournament rounds.

Golf:

Fundamental skills—

Driving, putting, use of irons.

Rifle shooting:

Fundamental skills—

Aiming, shooting from lying, kneeling, standing position, range discipline and handling of rifle.

Competitions.

4. Field Athletics:

Individual events:

Dashes up to 75 yards.

Jumps for form—scissors, front, deep.

Game skills—

Archery.

Badminton—serve into marked area.

Basketball—running shot, free shot.

Fieldball—throwing for distance.

Soccer—dribbling for speed, kicking for distance, accuracy.

Softball—throwing for distance, throwing for accuracy, base running for time, batting for distance.

Volleyball—serving into marked areas, volleying net height against wall.

Novelty races—potato and spoon, hoop race, wand race, sack race, slow bicycle, tape jumping, etc.

Team events:

Low organization games—relay and lead-up games with and without equipment.

Relays—pursuit, shuttle, file, obstacle, three-legged, dash and throw, medley, potato, novelty, e.g. thread needle, spelling, adding, balancing, etc.

Game skill relays—

Basketball—running shot, free shot, passing.

Soccer—dribbling, kicking.

Softball—catching and throwing for speed (two or more players), diamond throwing for speed (all players of team on field), fielding.

Volleyball—keep up; passing; net pick-up, pass and spike.

Low organization games.

Team games.

Individual games.

Disapproved of:

High jumping (for height), broad jumping, hop step and jump, in competition; shot-put and throwing of any kind of heavy weight; long dashes, hurdling.

5. Skating.
6. Hiking.

The following points should be noted:

1. In the games period the playing of the game should be stressed rather than practice of skills.
2. The game skills should be practised as the need for them arises in the playing of the game.
3. The games lesson should begin with a short practice of a skill for which the pupils feel a need. This skill should then be coached as the game is played. At the end of the lesson pupils should evaluate their playing ability and suggest a means of improving it. This discussion will motivate the practice of skills in the subsequent lesson.
4. When the activities of the games lesson do not stress physiological objectives, a few movements to promote these should be included in the lesson.
5. The games period should be organized to provide adequate activity for every pupil in the class, either in actual playing of games or in some leadership capacity.
6. A leaders' class is the most efficient way of preparing assistants for the games period.
7. Leadership should be stressed in class periods, and particularly in Grade XIII as a preparation for teacher training and leadership in community and industrial recreation.
8. Games provide an excellent opportunity for the teaching of good citizenship.
9. It is suggested that the individual sports which are more useful in adult life be stressed in the upper grades.
10. A Sports Day, based upon team as well as individual competition, with the majority of the pupils participating, shall replace the traditional Field Day, which emphasized individual competition and appealed only to a small percentage of highly skilled pupils.

## Minimum Requirements

1. A minimum of 150 (40-minute) periods shall be devoted to games in Grades IX–XIII, i.e. 30 periods in each grade.
2. The maximum time which shall be devoted to each activity is as follows:

| | Periods | | Periods |
|---|---|---|---|
| Basketball | 30 | Skating | 20 |
| Volleyball | 20 | Hiking | 20 |
| Softball | 20 | Badminton | 20 |
| Fieldball | 20 | Tennis | 10 |
| Soccer | 20 | Archery | 10 |
| Speedball | 20 | Golf | 10 |
| Field Athletics | 20 | Rifle Shooting | 10 |

3. At least one of the games selected shall be an individual sport, e.g. badminton, tennis, archery, golf or rifle shooting.
4. If swimming is included in the programme, the minimum number of required periods may be reduced.
5. Where the optional periods in physical education are given, additional time should be devoted to games. In Grade XIII the equivalent of 10 periods should be devoted to leadership training.

## SWIMMING

1. Strokes:
   Elementary crawl, back stroke, breast stroke, side stroke, crawl, overarm side.
2. Diving:
   Plain dive, jack-knife, swan, running dive.
3. Life Saving:
   Emergency measures:
   Changing from back to front and front to back positions, treading water, sink and save, relieving cramps while floating, fireman's carry from shallow water, lift out of deep water at edge of pool, surface dive for objects of different weights.
   Releases:
   Surface and underwater approach, front strangle hold, back strangle hold, neck hold, body hold, double grip on one wrist, breaking two persons apart.
   Rescues:
   Head carry, cross chest carry, hair carry, tired swimmer carry.
4. Water Games:
   Tag, relay, group.
5. Stunts:
   Elementary—head first sculling, feet first sculling, motionless floating, marching, long plunge, spinning top, wash tub.
   Intermediate—canoe, swimming on breast, feet first, pendulum. paddle wheel.
   Advanced—pendulum floating, rolling log, back somersaults, propeller, imitation of torpedo, formation swimming.

The following points should be noted:

1. Every pupil in the school should learn to swim.
2. Where a pool is not available, the mimetics of the swimming strokes should be taught, so that the pupils may practise intelligently when the opportunity arises.
3. Every pupil should learn life-saving measures as a routine safety precaution.
4. Advanced diving and competitive swimming should not be attempted until provision has been made for the achievement of the above standards.

### Minimum Requirements

Schools which have a swimming pool should devote a minimum of 50 periods to swimming in Grades IX–XIII.

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*Badminton Guide.

*Basketball Guide.

Field Hockey, Lacrosse.

Individual Sports Guide.

Recreational Games—Track and Field.

*Soccer—Speedball.

*Softball—Volleyball.

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NOTE.—A. S. Barnes & Co. publications are sold by Copp Clark Co., Toronto.

# HEALTH EDUCATION COURSE
## in
# Grades IX, X, XI and XII

**Objectives**

To provide a working knowledge of the structure, functions and hygiene of the body; to develop attitudes favourable to the practice of healthful living; to establish habits and principles of healthful living which will lay the foundation for the greatest possible happiness and service in personal, family and community life.

**Principles**

The content of this course should be related to the life experiences of the pupils, e.g. posture, clothing, school lunches, etc.

Anatomy and physiology should be taught as a background for the presentation of the hygiene of the body. Technical terms should be used only where necessary.

This course should be presented in a room equipped with visual aids such as charts, models, a lantern or reflectoscope, and an adequate range of reference books.

Wherever possible, the material presented in this course should be correlated with other subjects in the curriculum.

## OUTLINE OF COURSE FOR BOYS

## Grade IX

Health and Safety..... 68 periods

### HEALTH

1. Introduction to the Course in Health Education:
   - The meaning and importance of good health:
     - In enjoying life, in getting an education, in earning a living.
   - The signs of good health:
     - Physical—skeletal growth, muscles, organic functioning, skin, teeth, hair, eyes, ears, tongue.
     - Mental and emotional—ability to face facts, to concentrate, to think clearly; attitudes of cheerfulness, self-control, self-confidence; freedom from fear and self-consciousness.
     - Social adjustment—ability to live with others; normal relationships with family, with friends of both sexes; responsibility to groups of which one is a member.
   - The attainment of good health:
     - A knowledge of the nature of man, e.g. his physical, mental and social characteristics.
     - A knowledge of the factors contributing to healthful living.
     - The practice of healthful living.
2. Body Mechanics:
   - Framework of the body:
     - Bones—function, types, composition, parts of the skeleton, essentials for growth and development.
     - Joints—types, motion in joints, structure, ligaments.

Organs of movement:

Muscles—types, function, attachments, tendons, muscles and nerves.

Effects of food, exercise, fatigue, rest.

Posture:

Good posture—standing, walking, sitting, lying, dancing, playing games.

Poor posture—common defects, causes, improvement.

The feet—structure, hygiene, e.g. bathing, exercise, shoes.

First aid:

Treatment of injuries to bones, joints and muscles.

3. The Skin, Hair, Nails:

Skin—structure, function, hygiene, e.g. nutrition, circulation, bathing, clothing, fresh air and sunshine, cosmetics, skin disorders.

Hair—structure, care, e.g. brushing, shampooing, grooming.

Nails—structure, care.

First aid—treatment of skin injuries; abrasions, blisters, burns, scalds, sunburn, poison ivy.

4. The Eyes:

Importance of good eyesight; structure of the eyes; function of the eyes; defects and correction of vision; care of the eyes—nutrition, lighting, avoidance of strain, protection from dust and glare, regular examination; eye infections.

First aid—treatment of eye injuries; foreign body, bruises.

5. The Ears:

Importance of normal hearing; structure of the ears; function of the ears; care of the ears—avoidance of injury, protection when diving and swimming, care during a cold, early recognition of defects; ear infections.

First aid—removal of foreign body.

6. The Teeth:

Importance of good teeth; structure of the teeth; function of the teeth; defects and their causes—caries, pyorrhea; care of the teeth—nutrition, cleaning, regular examination.

## SAFETY

1. Accidents and Their Causes:

The human factors—ignorance, carelessness, selfishness, impatience.

2. Accidents and Their Prevention:

(i) In the home—falls, fire, electricity, gas, cleaning fluids; poison.

(ii) In the school—fire regulations, equipment and drill; the shops and laboratories; the playground; the gymnasium; the swimming pool.

(iii) On the street and highway:

Pedestrian, driver and bicycle rider; health and fitness; knowledge and observance of traffic regulations; courtesy and common sense.

The highway—safe construction; safety measures.

The motor car—safe construction; dangers of carbon monoxide gas poisoning.

(iv) In recreational activities:
Seasonal—swimming, boating, camping, hunting, activities on ice.
Special occasions—Christmas, New Year's Eve, Victoria Day, Hallowe'en.
Public buildings—the dangers of panic; safety measures.

(v) In industry:
The responsibility of the employer; construction of factory; protection of machinery; adequate facilities for rest and recreation; enforcement of safety regulations.
The responsibility of the employee—to observe and respect safety rules; to keep physically fit.

3. The Organization of Society for the Promotion of Safety:
(i) Local—police protection; fire protection; traffic regulations; supervision of beaches and playgrounds.
(ii) Provincial—police protection; fire protection; highway regulations; protection for industrial workers.
(iii) Federal—police protection; fire protection; safety regulations—on waterways, on railroads, on airways, on highways; the control of the sale and use of firearms; the control of narcotics.

## Grade X

Health Education.....34 periods

1. Circulatory System:
The meaning and purpose of circulation.
The organs of circulation and the functions of each—heart, lungs, arteries, veins, capillaries.
The blood—composition, functions, amount, pressure.
The circulation of the blood.
The hygiene of good circulation—rest and sleep, regular exercise and good posture, avoidance of overstrain, calmness and poise, adequate nutrition, effects of alcohol and tobacco, avoidance of infection of the heart tissues through disease.
Common diseases and abnormal conditions—anaemia, arteriosclerosis, heart conditions due to infectious diseases, infected teeth, muscular strains, drugs, poisons.
First aid—haemorrhage, shock, fainting, infections.

2. Respiratory System:
The meaning and purpose of respiration.
The organs of respiration and the functions and care of each—air passages, lungs, respiratory muscles.
The breathing process—inspiration, expiration.
The hygiene of respiration—breathing through the nose, muscular action in breathing, respiratory exercises, abdominal, chest and natural breathing.
Common diseases and abnormal conditions—tuberculosis, cold, influenza, sinus infection, adenoids, enlarged tonsils, pneumonia, bronchitis, pleurisy, industrial diseases.
The air we breathe—composition of air, fresh and foul air.
Requirements of good ventilation—temperature, humidity, air motion.
Methods of obtaining good ventilation.
First aid—artificial respiration.

3. The Ductless Glands:
   Position and function of the ductless glands.
   The effects of abnormal secretions.

4. Health Progress Through the Ages—a study of the progress that has been made in:
   The discovery and control of bacteria, including immunization and sanitation.
   The development of surgery through a knowledge of—anatomy, the control of bleeding, the use of antiseptics, and the discovery of anaesthesia and X-rays.
   Professional care by doctors, nurses and dentists and through the establishment of hospitals.
   Control of communicable diseases, such as—measles, smallpox, diphtheria, venereal disease.
   (If time is available this may be centred around biographical studies of such people as Hippocrates, Galen, Pare, Vesalius, Pasteur, Koch, Trudeau, Ehrlich, Jenner, Reed, Harvey, Lister, Roentgen, the Curies, Florence Nightingale, Osler, Banting.)

## Grade XI

Health Education.....34 periods

1. Food and Digestion:
   The essentials of an adequate diet to provide nutrition—construction and repair of body tissue; energy to the body; regulation of body processes; protection against disease.
   The organs of digestion and the functions and care of each—mouth, teeth, pharynx, esophagus, stomach, small intestine, large intestine, liver, kidneys.
   Factors which promote or retard digestion—exercise and recreation, happiness, care in diet, fatigue, worry and irritability, unwholesome foods, occupation, age, sex.
   The importance of correct eating habits—avoidance of overeating or undereating; avoidance of alcohol, tea, coffee.
   Common diseases and abnormal conditions—constipation, appendicitis, indigestion, ulcers, allergies.
   The sources of food nutrients that supply the essentials of an adequate diet—proteins, carbohydrates, fats, water, mineral matter, vitamins, bulk.
   Economic aspects of foods in an adequate diet—energy foods, milk and cheese, fruits and vegetables, meats, fish, poultry and eggs, good nutrition at different levels of expenditure.

2. The Nervous System and Healthful Living:
   (a) The nervous system—
      The function of the nervous system—communication, co-ordination.
      The structure and function of the parts of the nervous system—brain, spinal cord, nerve trunks, nerve cell.
      The health of the nervous system—effect of nutrition, exercise and recreation, sleep and rest, fatigue, emotions, alcohol, drugs.

(b) Healthful living—

Worthy standards of conduct for application in daily living—

Work—*attitudes essential to success in work*—interest, self-confidence, perseverance, concentration, belief in one's service to society, creative effort, doing more than has to be done, high standards.

*Conditions essential to success in study* (study is the student's work)—concentration, system, faithfulness, quiet room, accepting difficulties as a challenge, keeping work up-to-date.

Recreation—*comparison of active and passive recreation.*

*Choosing suitable recreation*—recreation suited to age, season, economic status, health, etc.; recreation as a relief from work.

*Essentials to success in recreation*—satisfactory work, skill, interest, creative effort, fair play.

Social adjustment—*control of the emotions*—anger, fear, worry, etc.

*Avoidance of unhealthful ways of thinking*—rationalization, blaming others, excessive day dreaming, suspicion, moodiness.

*Associating happily with others*—family relationships and responsibilities, school loyalties, wholesome relationships with both boys and girls.

*Acceptance of civic responsibilities*—intelligent voting; support of public services; responsibility towards laws and services that promote general welfare.

*Attitude towards special problems of conduct*—smoking, late hours, use of alcohol, "gate crashing," "hitch hiking," petty gambling.

## Grade XII

Health Education.....34 periods

1. First Aid (20 periods):

The course of instruction is that laid down by the St. John Ambulance Association for a Senior First Aid course. Examinations may be held in the manner prescribed by the St. John Ambulance Association, and certificates awarded to those passing the course.

Principles of first aid; structure and functions of the body; shock; dressings and bandages; fractures; injuries to joints and muscles; circulation of the blood; wounds and haemorrhage; haemorrhage from special regions; the respiratory system; the nervous system; insensibility; poisons; miscellaneous injuries; routine examination of a patient; preparation for reception of victims of accidents; movement of injured persons.

2. Current Problems in Health:

Fads and prejudices, self-diagnosis, patent medicines, tendencies in advertising.

Cancer, heart disease, tuberculosis, kidney disease, mental disease, the common cold, venereal disease.

3. Government Organization for Promotion and Protection of Health:
   Local, provincial and Federal responsibility.
   The work of voluntary organizations such as the Canadian Red Cross Society, and service clubs.

4. Vocations in Health:
   A study of the various branches of the medical profession and associated vocations, e.g., dentistry, physical education, laboratory technicians, optometry, pharmacy, social work.

# OUTLINE OF COURSE FOR GIRLS

## Grade IX

Health and Safety.....68 periods

Same course as outlined for boys.

## Grade X

Physiology, Nutrition, Communicable Diseases.....68 periods

### PHYSIOLOGY

1. Circulatory System:
   - The meaning and purpose of circulation.
   - The organs of circulation and the functions of each—heart, lungs, arteries, veins, capillaries.
   - The blood—composition, functions, amount, pressure.
   - The circulation of the blood.
   - The hygiene of good circulation—rest and sleep, regular exercise and good posture, avoidance of overstrain, calmness and poise, adequate nutrition, effects of alcohol and tobacco, avoidance of infection of the heart tissues through disease.
   - Common diseases and abnormal conditions—anaemia, arteriosclerosis, heart conditions due to infectious diseases, infected teeth, muscular strains, drugs, poisons.
   - First aid—haemorrhage, shock, fainting, infections.
2. Digestive System:
   - The meaning and purpose of digestion.
   - The organs of digestion and the functions and care of each—mouth, teeth, pharynx, esophagus, stomach, small intestine, large intestine.
   - Factors which promote or retard digestion—exercise and recreation, happiness, care in diet, fatigue, worry and irritability, unwholesome foods.
   - The importance of correct eating habits—avoidance of overeating or undereating; avoidance of alcohol, tea, coffee.
   - Common diseases and abnormal conditions—constipation, appendicitis, indigestion, ulcers, allergies.
   - Use of laxatives.
   - First aid—poisons.
3. Respiratory System:
   - The meaning and purpose of respiration.
   - The organs of respiration and the functions and care of each—air passages, lungs, respiratory muscles.
   - The breathing process—inspiration, expiration.
   - The hygiene of respiration—breathing through the nose, muscular action in breathing, respiratory exercises, abdominal, chest and natural breathing.
   - Common diseases and abnormal conditions—tuberculosis, cold, influenza, sinus infection, adenoids, enlarged tonsils, pneumonia, bronchitis, pleurisy, industrial diseases.
   - The air we breathe—composition of air, fresh and foul air.

Requirements of good ventilation—temperature, humidity, air motion.
Methods of obtaining good ventilation.
First aid—artificial respiration.

4. The Nervous System:
   The function of the nervous system—communication, co-ordination.
   The structure and function of the parts of the nervous system—brain, spinal cord, nerve trunks, nerve cell.
   The health of the nervous system:
      Effect of nutrition, exercise, sleep and rest, fatigue, emotions, alcohol, drugs.
      Mental habits, self-control, use of leisure time, recreation and hobbies.
   Common diseases and abnormal conditions—hysteria, chorea, infantile convulsions, epilepsy, insanity, poliomyelitis, neuritis, sciatica.
   First aid—treatment of insensibility.
5. The Ductless Glands:
   Position and function of the ductless glands.
   The effects of abnormal secretions.

## NUTRITION

1. The Meaning of Nutrition.
2. The Importance of Nutrition:
   Physical fitness; mental fitness.
3. The Relation of Food to Nutrition.
4. The Essentials of an Adequate Diet to Provide Nutrition:
   Construction and repair of body tissue; energy to the body; regulation of body processes; protection against disease.
5. The Sources of Food Nutrients That Supply the Essentials of an Adequate Diet:
   Proteins, carbohydrates, fats, water, mineral matter, vitamins, bulk.
6. The Factors Affecting the Selection of Food Nutrients for an Adequate Diet:
   Occupation, age, exercise, sex, season.
7. Economic Aspects of Foods in an Adequate Diet:
   Energy foods, milk and cheese, fruits and vegetables, meats, fish, poultry and eggs, good nutrition at different levels of expenditure.
8. Psychological Aspects of Foods in an Adequate Diet:
   Food likes and dislikes; suitable presentation—attractive arrangement, colour, textures, well prepared; food fads; dieting.
9. Nutrition in Wartime:
   Canadian foods; how to avoid waste; salvage; rationing.

## COMMUNICABLE DISEASES

The Nature of Communicable Diseases—a study of the progress that has been made in:
   The discovery and control of bacteria, including immunization and sanitation.
   Control of communicable diseases, such as—smallpox, measles, diphtheria, typhoid fever, the common cold, venereal disease.
   The advance in public health measures for discovering and combatting communicable diseases.

## Grade XI

Healthful Living.....34 periods

First Aid or Home Nursing.....34 periods

### HEALTHFUL LIVING

**Objectives**

1. To consider the factors contributing to living successfully.
2. To gain an understanding of people and why they behave as they do.
3. To develop insight, understanding and knowledge of one's own conduct and personality (including strong points and limitations).
4. To set up worthy standards of conduct for application in daily living.
5. To practise the use of these standards in daily living.

1. The Meaning of Successful Living:
   Physical health; economic independence; satisfying forms of recreation; satisfying social relationships; a philosophy of life.
2. The Nature of Development:
   Basic needs—physiological, mental, emotional; result of satisfaction of basic needs; result of lack of satisfaction of basic needs.
3. Work:
   The meaning of work; the importance of work in a life plan.
   Types of work—business, journalism, teaching, medicine, nursing, war services, social service, home making, arts, industry, school work, etc.
   Choosing a vocation—capacities; skill and aptitude; society's need of the work; satisfaction.
   Attitudes essential to success in work—interest, self-confidence, perseverance, concentration, belief in one's service to society, creative effort, doing more than has to be done, high standards.
   How to apply for work.
4. Recreation:
   The meaning of recreation; the importance of recreation in a life plan.
   Types of recreation:
      Passive—motion pictures, radio, motoring, watching athletic competitions, etc.
      Active—tennis, badminton, archery, golf, gardening, reading, discussion, camping, photography, meditation, etc.
   Choosing suitable recreation:
      Recreation suited to age, season, economic status, health, etc.
      Recreation as a relief from work.
   Essentials to success in recreation—satisfactory work, skill, interest, creative effort.
5. Social Adjustment:
   Growing up emotionally:
      Need for love and affection, need of expressing it.
      Control and direction of anger, fear, anxiety, etc.
      Determining conduct by consideration of facts rather than prejudices, superstitions, and standards of other people.
      Avoidance of unhealthful ways of thinking; rationalization, blaming others, excessive day dreaming, suspicion of others, hypochondria.

Getting on with people—interest in people; interest in the world about us; friendliness; willingness to learn from others; belief in others; being a good leader and a good follower.

Living happily with your family—gaining independence; courtesy in family relations; responsibilities to the family.

Associating happily with girls—playmates, "best friend," crushes, mature friendships.

Associating happily with boys—being attractive; entertaining boys; keeping a boy's friendship; love; attitudes towards smoking and drinking.

Being a good citizen:

Understanding the social structures and social processes.

Acceptance of civic responsibilities—intelligent and socially minded voting; support of public services; layman's knowledge of law; payment of taxes.

Whole-hearted participation in group activities—at home, school, in clubs, teams, social agencies, religious and political institutions, world community.

Providing opportunity for all to develop fully, through education, work, social and cultural opportunities; allowing no one to be degraded, humiliated or discriminated against.

Self-discipline—respect for law and authority—rules in games, school regulations, self-government, traffic regulations, health laws, etc.

Full use of intelligence without fear, hatred or suspicion—defences against propaganda, awareness of disparities of human circumstances, respect for differences of opinions, evaluating scientific advances on basis of contribution to general welfare.

Promotion of socially constructive action.

Conservation of national resources.

Loyalty to the democratic ideal.

6. A Philosophy of Life:

The need for a philosophy—as an explanation of the universe in which one lives; as a driving force in success or in adversity.

The essentials in a philosophy—usefulness as a guide; well-defined goal; growth and flexibility; faith in the goodness of life.

7. Conclusion:

The essentials in successful living—work; recreation, social adjustment; philosophy of life.

## FIRST AID

1. The Meaning and Principles of First Aid.
2. The Qualifications and Responsibilities of the First-Aider.
3. First Aid Equipment:

The kit—contents, use; substitutes.

4. Shock:

Symptoms; treatment; the result of negligence.

5. Bandages:

Types—four-tailed, roller, triangular.

The use of the triangular bandage:

As slings—small arm, large arm, St. John; to keep a dressing in place—scalp, face, shoulder, hip, hand, foot, back, chest, elbow, knee.

6. Wounds:

Types of wounds—incised, lacerated, contused, punctured; treatment.

7. Haemorrhage:

Types and recognition—arterial bleeding, capillary bleeding, venous bleeding.

The location of pressure points.

Treatments—by digital pressure; by the tourniquet.

Special cases of haemorrhage.

8. Fractures:

Varieties, causes, symptoms.

Treatment—general; special cases—skull, spine and pelvis, thigh bone, upper arm, etc.

9. Injuries to Joints and Muscles:

Types of injuries—dislocations, sprains, strains and ruptures; causes; symptoms; treatment.

10. Insensibility:

When breathing is absent (asphyxia):

Causes—obstruction of air passages; inhalation of gases; pressure on chest; nervous affections.

Symptoms.

Treatment—artificial respiration—Schafer, Silvester; additional treatment for special cases.

When breathing is present:

With convulsions—

Types—epilepsy, hysteria, infantile convulsions, some poisons.

Symptoms; treatment.

With no convulsions—

Types—injuries to the head, shock, fainting, sunstroke, heat stroke, diabetes.

Symptoms; treatment.

11. Poisons:

Entry—by mouth; by inhalation; by injections under the skin; by bites, stings or narcotics.

Types—corrosives, irritants, narcotics.

Symptoms; treatment; general emetics; antidotes.

Special cases—lysol, phosphorus, alcohol, strychnine, phenol, opium.

## Grade XII

Child Study.....34 periods

First Aid or Home Nursing }
Community Health } .....34 periods

### CHILD STUDY

1. Understanding Children (3 periods).

2. The Nature of Development (5 periods):
   Heredity and environment; learning.
3. The Child as a Growing Person (12 periods):
   Growing in the family; growing in the play group; growing in school; growing with friends and companions.
4. Helping the Child Grow (10 periods):
   Developing basic patterns through routines; developing interests and social living through play; guiding emotional expression; achieving discipline.
5. Security, the Goal of Child Development (4 periods).

REFERENCE

Introduction to Child Study—A Teacher's Manual. Ontario Department of Education.

## HOME NURSING

1. Health in the Home:
   Home hygiene; health habits.
2. The Signs of Sickness:
   The importance of early recognition; when to call the doctor; temperature; pulse; respiration.
3. The Care of the Patient:
   Feeding; bathing; elimination; care of mouth, teeth and hair; bed making; prevention of bed sores; rest and visitors.
4. Feeding the Sick:
   Food requirements; diets; importance of water; methods of serving.
5. Treatments:
   Medicine.
   Other treatments such as hot-water bottle; steam inhalation; stupe, poultice; mustard plaster; compresses; enema; douches.
6. Communicable Diseases:
   Disease germs; methods of spread; importance of early signs; methods of prevention; isolation.
7. Infant Care:
   Clothing; daily programme; recreation.
8. Maternity Nursing:
   Pre-natal care; the mother's preparation; the home nurse's preparation.

## COMMUNITY HEALTH

1. Current Problems in Health:
   Fads and prejudices, self-diagnosis, patent medicines, tendencies in advertising.
   Cancer, heart disease, tuberculosis, kidney disease, mental disease, the common cold, venereal disease.
2. Government Organization for Promotion and Protection of Health:
   Local, provincial and Federal responsibility.
   The work of voluntary organizations such as the Canadian Red Cross Society, and service clubs.

# REFERENCE BOOKS

## HEALTH EDUCATION

### Authorized Text

Phair and Speirs: Good Health—Ginn & Co., 1945.

### General References

#### Teacher References

*Best and Taylor: The Human Body and Its Functions—Gage & Co., 1932.
Best and Taylor: The Living Body—Henry Holt & Co.
*Conrad and Meister: Teaching Procedures in Health Education—W. B. Saunders Co., 1939.
*Hussey, Marguerite: Teaching for Health—Prentice-Hall, Inc., 1939.
*National Education Association and The American Medical Association: Health Education, Washington, N.E.A., 1941.

#### Pupil References

*Burkhard, Chambers and Maroney: Health and Human Welfare—Lyons & Carnaham, 1937.
Burkhard, Chambers and Maroney: Personal and Public Health—Ryerson Press, 1936.
Clendenning, L.: The Human Body—Alfred A. Knopf, 1929.
*Crisp, K. B.: Be Healthy—J. B. Lippincott Co., 1938.
Cockefair and Cockefair: Health and Achievement—Ginn & Co., 1940.
Eastwood, C. F.: Hygiene for Students and Teachers—Macmillan Co., 1937.
*Hughes, O.: Introductory Foods—Macmillan Co., 1941.
Rice, T. B.: Living—Scott, Foresman Co., 1940.
*Williams, J. F.: Healthful Living—Macmillan Co., 1941.
Bulletins and Manuals:
Canadian Medical Association Publications, Toronto.
Canadian Red Cross Association, Toronto.
The Canadian Welfare Council, Council House, Ottawa.
Department of Health, Parliament Buildings, Toronto.
Department of Pensions and National Health, Ottawa.
Life Insurance Companies.

### Healthful Living

#### Teacher References

Arlitt, Ada Hart: The Adolescent—McGraw-Hill Book Co., Inc., 1938.
*Bennett, M. E.: Building Your Life—McGraw-Hill Book Co., Inc., 1935.
Commission on Secondary School Curriculum of the Progressive Education Association: Science in General Education—D. Appleton Century Co., New York.
*Educational Policies Commission (N.E.A. and A.A.S.A.): The Purposes of Education in American Democracy—1201 Sixteenth St., Northwest, Washington, D.C., 1938.
*Educational Policies Commission (N.E.A. and A.A.S.A.): Learning the Ways of Democracy—1201 Sixteenth St., Northwest, Washington, D.C.
Griffin, Laycock and Lyon: Mental Hygiene—American Book Co., 1940.
Hart, Hornell: Chart for Happiness—Macmillan Co., 1940.

*Hollingworth, Leta: Psychology of the Adolescent—D. Appleton Century Co., 1928.
*McLean, Donald: Knowing Yourself and Others—Henry Holt Co., 1938.
*Myers, Roger C.: Toward Mental Health—The University of Toronto Press, 1939.
Pressey, Janney and Kuhlen: Life: A Psychological Survey—Harper & Brothers, 1939.
Rosenblatt: Literature as Exploration—D. Appleton Century Co., 1938.
Travis and Baruch: Personal Problems of Everyday Life—D. Appleton Century Co., 1941.

### Pupil References

Bennett and Hand: Beyond High School—McGraw-Hill Book Co., Inc., 1938.
Brewer and Glidden: Newspaper Stories for Group Guidance—Inor Publishing Co., 1938.
Burkhard, Chambers and Maroney: Health and Human Welfare—Lyons & Carnaham, 1937.
Crawford, Cooley and Trillingham: Living Your Life—D. C. Heath & Co., 1940.
Cunningham, B. V.: Family Behaviour: A Study of Human Relations—W. B. Saunders Co., 1936.
*Fedder, Ruth: A Girl Grows Up—McGraw-Hill Book Co., Inc., 1939.
*Keliher, Alice V.: Life and Growth—D. Appleton Century Co., 1936.
Lingenfetter and Kitson: Vocations for Girls—Harcourt, Brace & Co., 1939.
Lloyd-Jones, Esther: Coming of Age—McGraw-Hill Book Co., Inc., 1941.
McKown and LeBron: A Boy Grows Up—Whittlesey House, McGraw-Hill Book Co., Inc., 1940.
*Rice, Thurman B.: Living—Scott, Foresman & Co., 1940.
Rockwood, L. D.: Pictures of Family Life—American Home Economics Association, Washington, D.C., 1935.
*Ruch and Mackenzie: People Are Important—Scott, Foresman & Co., 1941.
*Ryan, Mildred Graves: Cues for You—D. Appleton Century Co., 1940.
Williams, J. F.: Personal Hygiene Applied—W. B. Saunders Co., 1934.
Wunsch and Albers: Thicker Than Water—D. Appleton Century Co., 1939.

## Child Study

### Pupil References

ESSENTIAL:

(1) Aldrich, C. A., and Aldrich, M. M.: Babies Are Human Beings—Macmillan Co., New York, 1938.
(2) Faegre, M. L., and Anderson, J. E.: Child Care and Training—University of Minnesota Press, Minneapolis, 1940.
(3) Meek, L. H.: Your Child's Development and Guidance—J. B. Lippincott Co., Toronto, 1940.

SPECIAL:

(4) Alschuler, R. H.: Two to Six—Wm. Morrow & Co., New York, 1937.
(5) Alschuler, R. H., and Heinig, C.: Play: The Child's Response to Life—Houghton, Mifflin Co., New York, 1936.
(6) Leonard, E. M., Wilish, E., Van der Kar, C. S.: The Child, at Home and School—American Book Co., Boston, 1942.
(7) Wolf, A. W. M.: The Parents' Manual—Simon & Schuster, New York, 1941.

## Teacher References

ESSENTIAL:

(8) Jersild, A. T.: Child Psychology—Prentice-Hall Inc., 1940.

(9) Reynolds, M. M.: Children from Seed to Saplings—McGraw-Hill Book Co., New York, 1939.

(10) Thom, D. A.: Everyday Problems of the Everyday Child—D. Appleton Century Co., New York, 1931.

SPECIAL:

(11) Kawin, E.: The Wise Choice of Toys—University of Chicago Press, Chicago, 1940.

(12) Teagarden, F. M.: Child Psychology for Professional Workers—Prentice-Hall, Inc., 1940.

## Pamphlets

Institute of Child Study, University of Toronto, publications:

Bernhardt, K. S.: Basic Principles of Preschool Education.
Leisure Time Activities for the School Age Child.
Progressive Discipline.
Sex Education.
What a Good Home Is Like.

Chant, N.: Training in Elimination.
Play Materials for the First Two Years.
Sleeping Habits.

Johnson, F. L.: Habits of Eating.

Pamphlets published elsewhere (obtainable at Child Study Institute):

Anderson, A. C.: Toys You Can Make.

Blatz, W. E.: Human Needs and How They Are Satisfied.
The Mental Hygiene of Infancy.
The Mental Hygiene of the Preschool Child.

Furfey, P. H.: Understanding Your School Age Child.

National Committee for Mental Hygiene: The Child in Wartime.

New Jersey State: Helping the Quarrelsome Child.

College of Agriculture: Children's Friendships
Children's Responsibilities.

Ontario Department of Health: Mental Hygiene Pamphlets.

Thom, D. A.: Child Management.

## Magazines

Parents' Magazine—Published monthly by the Parents' Institute, Inc.. 4600 Diversey Ave., Chicago, Ill.

Parent Education Bulletin—Published five times yearly by the Institute of Child Study, 98 St. George St., Toronto.

## Films

Visual Aids, Department of Education, Parliament Buildings, Toronto:

Early Social Behaviour; Dr. Arnold Gesell.

Baby's Day at 12 Weeks; Dr. Arnold Gesell.

Behaviour Day at 48 Weeks; Dr. Arnold Gesell.

Balloons; Department of Child Study, Vassar College.

N.B.—Further guidance in supplementary material may be obtained through the Institute of Child Study, University of Toronto.

# CADET TRAINING COURSE

## in

# Grades IX, X, XI, XII and XIII

It is the aim of this programme to provide training for boys which will make them conscious of national service and good citizenship. It is intended that, as far as possible, all boys will take the complete course as set forth in the courses of study in Physical and Health Education and Cadet Training whether they belong to open Cadet Corps or units of the Reserve forces or not. Except where exemption has been granted by the Minister of Education, each secondary school will organize a cadet corps which will include all physically fit boys in Grades X, XI and XII who are not members of an open corps or of the Reserve forces, and such boys of Grade IX, as may be accommodated. Boys of Grade XIII will belong to the school cadet corps as Senior Cadets or attached members but may be excused from parades except when the whole corps parades as a unit.

Each cadet corps will be associated with the cadet branch of one of the Navy, the Army or the Air Force. Where a cadet corps is already organized in any school it will continue to be associated with the cadet branch of the service under which it previously operated. Where a cadet corps is reorganized or is organized for the first time after September, 1944, the school officials may, in consultation with the Department of Education, choose the service with which the corps is to be associated. A pupil may be exempted from membership in a school cadet corps on presentation of proof that he is a member of an open cadet corps, or of the Reserve forces. Membership in an open corps or in the Reserve forces does not exempt a boy from taking the subjects of study as outlined in the courses of study in Physical and Health Education and Cadet Training.

## OUTLINE OF COURSE

### BASIC DRILL

### Grades IX to XIII

A comprehensive and progressive course in Basic Drill is to be included in the Physical Education course, and should occupy about fifteen periods each year in Grades IX, X, XI, XII and XIII. The following positions and movements should be stressed:

Position of attention, stand at ease, stand easy; formation of squad in threes, open and close order; dressing; turning right, left and about; sizing a squad; marching in quick time, length of pace, time, position; halting; marching, keeping dressing while on the march; marking time, changing step on the march and when marking time; slow march, marching in double time from quick time and marking time; side step, right and left close march; and when on the move; platoon or flight drill; company or squadron drill.

## Grade X

| | |
|---|---|
| Fundamentals | 12 periods |
| Selections | 22 periods |
| Two or more of the following will be taught depending on local conditions: | |
| Small Arms Training | |
| Knots, Bends and Hitches | |
| Woodcraft | |
| History and Development of Weapons | |
| | 34 periods |

### FUNDAMENTALS: Organization

(12 Periods)

The introductory lessons in the Cadet Training course should establish a high level of discipline and demand of each pupil a standard of behaviour which will ensure the most efficient performance.

1. History and Tradition of the School's Corps.
2. Object of Cadet Training, Organization of School Corps, Discipline and Leadership.
3. Origin and Traditions of the Services, Navy, Army, and Air Force:
   Rank badges, status, and duties; comparative ranks in the services; decorations and medals.
4. Flags, Standards, Coats of Arms and Colours; Courtesies and Respect.

References

Army Training Pamphlet (1942) Organization.
Defence Training (Dent).
Notes on Naval History BR 607 (King's Printer).

### —Selections—

### SMALL ARMS TRAINING

1. Theory of Rifle Fire.
2. Description of Rifle.
3. Mechanism and Cleaning:
   Mechanism, cleaning material and daily cleaning.
4. Aiming Instruction:
   Sight setting, rules of aiming, correct aim, common faults in aiming and their effect.
5. Firing Instruction:
   Loading and unloading, holding and trigger pressing, firing from low cover and other positions, firing at moving targets.

6. Range Discipline, Practice and Competitions.

NOTE.—In schools where facilities are available, range practice should be carried out regularly after school hours in all grades.

Before a student is allowed to fire on a range, he should be thoroughly instructed in range discipline and in the correct handling of a rifle.

It is assumed that the .22 B.S.A. rifle will be used in the course.

REFERENCES

Defence Training (Dent).
Small Arms Training, Vol. I, Pamphlets 1 and 3 (Army Issue).

## KNOTS, BENDS AND HITCHES

The following are suggested as the most frequently used bends and hitches, and should be practised until proficiency is attained:

Bowline, reef knot, clove hitch, rolling hitch, single-sheet bend.

If time is available, a selection may be made from the following:

Timber hitch, half hitches, figure-of-eight knot, fisherman's bend, sheepshank, man harness hitch.

REFERENCES

Naval Service Pamphlet.
Cadet Training Pamphlet, "Knots and Lashings" (1942).
Air Cadet Pamphlet No. 8, "Knots and Splices."

## HISTORY AND DEVELOPMENT OF WEAPONS

A. BEFORE THE USE OF GUNPOWDER

1. (a) Hand weapons: club, sword, axe, halberd, spear, pike, etc.; manual projectiles: stone, dart, javelin.
   (b) Mechanical projectiles: sling, blowtube, long-bow, cross-bow.
2. Siege weapons: battering ram, movable tower, ballista, catapult.
3. Mobile or mounted weapons: lance, mace, sabre, chariot.
4. Defensive armour: shield on left arm, helmet and breastplate, plate mail, chain mail.
5. Use of terrain: hills, passes, rivers, swamps.

B. FIFTEENTH TO TWENTIETH CENTURIES

1. Explosives generally: revision of siege tactics, battleships, reduction in hand-to-hand fighting, rifle instead of sword and bow.
2. Hand weapons: hand-grenade, blunderbuss, musket, breech-loader, rifle, pistol, revolver, machine-gun: continued importance of bayonet.
3. Siege weapons: howitzer and cannon, horse-drawn or afloat.
4. Horse-drawn field artillery: mountain batteries; quick-firers.

C. GENERAL MECHANICAL IMPROVEMENTS AND INVENTIONS OF INDUSTRIAL REVOLUTION

Steam: land and sea transport; electricity: telegraph steel: improved weapons; explosives; mechanical skill and ingenuity: heliograph, etc.

If time is available, a selection may be made from the following:

D. Modern Weapons

1. Hand weapons: improved automatic rifle, flame-thrower, Piat Rifle, Bazooka, 57 mm. Recoilless Rifle, etc.; bayonet remains important.
2. Self-propelled artillery and tanks.
3. Aircraft: fighter, bomber, reconnaissance, transport, airborne troops; divergence of design: engines: conventional, ram jet, turbojet, rocket jet.
4. Guided missiles: self-navigating, target seeking, remotely controlled subsonic and supersonic speed types; long-range artillery like German V-one, air control of bomb while dropping, ground to air use for anti-aircraft, air to air use instead of fighter interceptor.
5. Camouflage as defensive weapon: concealment and deceit; shadow and shine, background, (military training pamphlet No. 46).
6. Gas: War gases—choking, nose, tear, blister; risk must be accepted; alarm system; respirator; decontamination of person, weapons, vehicles; effect of gas on food and water; effect of weather and ground on gas; gas cleansing centres. (Gas training 1942).
7. Radar: bat, echo, timed pulse; timing echo by cathode ray and electrons; locating objects; ground radar, airborne radar, bombing through overcast.
8. Partial cancellation of weapon of offence by scientific defence; stepping-up of scientific weapons (atom bomb etc.); given equality of weapons man's use of them reverts to ancient entities: organization, supply, training, plan, character, temperament, morale.

## Grade XI

| | |
|---|---|
| Fundamentals, Leadership..... | 12 periods |
| Map Using<br>Small Arms Training | 22 periods |

### FUNDAMENTALS: Leadership

(12 Periods)

1. General Organization of Navy, Army, Air Force:
   Joint staffs, co-operation, combined operations.
2. Duties and responsibilities of officers, N.C.O's and cadets:
   Obey orders, give orders, see that orders are carried out; morale of units.
3. Qualities of Leadership:
   Knowledge, appearance, smartness, personality, character, industry, friendliness or understanding, unselfishness, power of command, clarity of expression, persistence, loyalty, resourcefulness, co-operation, self-control.

4. Methods:

   How to obtain co-operation, to command respect, to develop morale and *esprit de corps*, to handle discipline, submergence of individual to the common end.

5. Universal application of qualities of leadership in citizenship and national life.

NOTE.—Presentation of Organization should be extensive rather than intensive. Reference may be made to memoranda prepared by the Army and the Air Force and obtainable from the Director of Cadet Training, Department of Education, and to booklets published by the Navy League "Ships mean Life," "Ships mean Freedom," "Ships mean Security" and "Ships mean Victory".

## MAP USING

1. Representing the Earth on Paper:

   Topographical projections—basic, col, knoll, spur, shapes, areas, etc.; technical terms—contour, gradients, heights or depths, contours and form lines, layer tints, hachures, hill shading.

2. Conventional Signs:

   Object; nature—roads, railways, churches, windmills, airports, beacons, power lines, golf courses, etc.

3. Scale:

   Definition and use; methods of expressing scale; construction according to scale; measurement of distance.

1. Map Reading:
   (a) Review map and chart reading of Grade XI; scale conversion.
   (b) Enlarging a map from a scale such as "1 inch to 1 mile" to a scale $\frac{1}{25000}$.
   (c) Systems of reference; co-ordinates; map reference; Romers.
   (d) True, grid and magnetic north; conversion from one to the other; the service protractor; the prismatic and lensatic compasses; determination of compass errors; marching on a compass bearing by night.
   (e) Slopes and gradients; approximate and accurate methods of calculating slopes and gradients; vertical interval and horizontal equivalent.
   (f) Setting a map and locating a position on it by resection.

## SMALL ARMS TRAINING

1. Refresher treatment of SAT Grade X. Maintenance, cleaning, examination of the rifle.
2. Review and enlargement of aiming instruction; aim corrector; mechanics of marksmanship: position, holding, breathing, aiming, trigger control.
3. Target analysis as outlined in bulletins issued by the District Cadet Officers.
4. Range Practice and Procedure, indoor, outdoor, relays, coaching, butt signals; aids for school shooting: numbering rifles, recording sight setting; control of ammunition, block trays; range etiquette.

Reference: Small Arms Training (Rifle) Vol. 1, Pamphlet 3.
Coaches' Notes.
Notes in MD 3 Bulletin Vol. 11, No. 2.

## Grade XII

Fundamentals, Citizenship and Defence..... 12 periods
Two of: Navigation
Meteorology
Weapon Training
Signalling
Basic Radio Theory and Equipment 22 periods

### FUNDAMENTALS: Citizenship and Defence
(12 Periods)

1. Canada's Defence Policy past and present with discussion as to the future; reliance on small permanent organization and creation of citizen forces; duty of citizen to co-operate in relation to the Services, including ministerial responsibility on the floor of the House; consideration of Canada's military role in UN.
2. Changed concepts of war by scientific advance; aircraft, radar, rockets, atomic energy, guided missiles, paratroops; use of propaganda; morale as a weapon; shrinking of old frontiers, related topics in Modern History Course.
3. Struggle for Freedom: meaning of freedom and distinction between freedom and license; wars for freedom of peoples and ideas; freedom of thought and action in relation to scientific research; impetus of effort under true democracy compared to dictatorship, danger of neglecting national duty under guise of freedom.
4. Duties of a citizen: cadet training as a training for citizenship, co-operation; orderly thinking; physical and mental fitness; unselfishness; leadership, acceptance of responsibility as Canadian citizens.

**—Selections—**

### NAVIGATION

1. Introduction: meaning and origin of navigation; outline of three methods of navigation; map reading; D.R.; position lines.
2. The earth: form; great circle; small circle; equator; meridians; parallels; rhumb line.
3. Direction on the earth: true north; magnetic north; compass north; variation; deviation; compass error.
4. Air Force terms: course; track; drift; bearing; wind direction. Navy terms: set and drift of current; tide. Analogies between wind effect and current or tide effect. Emphasize different definitions of term "drift."
5. Position on the earth: latitude; longitude; differential latitude; differential longitude; examples.
6. Bearing and distance; methods of reporting position; examples.
7. Ground position; air position; D.R. position; measurement of distances; statute mile; nautical mile.
8. Speed: its measurement; air speed; ground speed; wind speed; wind velocity; height; altimeters.

If time is available the following may be studied:

1. Velocity; vector, labelling of vectors.
2. Time and speed scales; examples; practice in these using maps of different scales; used in Air Force only.
3. Vector triangle; vector parallelograms; vectoral addition; solution of vector triangles—Case I.
4. Solution of vector triangles—Case II, Examples.
5. Solution of vector triangles—Case III, Examples.

References

C.A.P. 12A, Section on Navigation.
Pilotage and Navigation, Book I (Canadian Legion Series).

## METEOROLOGY

1. Introduction: definition; importance of meteorology to aviation; operation of meteorological staffs.
2. The weather map; introductory study.
3. The atmosphere: composition of atmosphere; nature and measurement of air pressure; mercury barometer; aneroid barometer; pressure and altimeters.
4. The atmosphere (continued): horizontal change of pressure; effects of reduced air pressure on aircraft; examples of pressure change effects along a flight track.
5. The atmosphere (continued): definitions—troposphere, stratosphere; temperature—variation of air density with heights and temperature; temperature allowances.
6. Wind: wind description; wind and navigation; measuring surface wind velocity—pilot balloons, cloud movements; wind changes with height.
7. Wind (continued): Beaufort scale of wind force; wind change—veering, backing; gustiness.
8. Moisture in the atmosphere; water in the atmosphere—three states; humidity—relative humidity, measurement, variation of humidity.
9. Moisture in the atmosphere: condensation; fog in relation to navigation; radiation fog; fog due to air movement; frequency of fog occurrence.
10. Clouds: importance of knowledge of cloud types and associated weather; processes of cloud formation; cloud types—introduction.
11. Cloud types: high clouds—cirrus, cirrocumulus, cirrostratus; medium clouds—alto cumulus, altostratus; low clouds—stratus stratocumulus, nimbostratus; clouds of great vertical development—cumulus, cumulinimbus.
12. Clouds: hints for remembering cloud types; methods of measuring cloud-base height; hints on observing clouds.
13. Precipitation and visibility: rain; snow; sleet; hail; visibility—definition, measuring visibility by day and by night; visibility in clouds and precipitation; visibility from the air—up (down) moon, up (down) sun.

14. Ice formation: effects of ice accretion—increased air drag and stalling speed, reduced engine power; cause of ice formation on aircraft; types of ice formation—hoar frost, glazed frost, rime.

15. Thunderstorms: causes; characteristics of a fully developed thunderstorm cloud; determining distance and track; flying in thunderstorms—vertical currents, hail, lightning, icing.

16. The weather map: symbols used; isobars, isobars and wind; general discussion of typical weather chart—warm front, cold front, occlusion; weather reports; weather forecasts.

REFERENCE

C.A.P. 12A, Section on Meteorology.

## WEAPON TRAINING

1. Characteristics, description and handling of Platoon and Battalion weapons.

    1. Pistol (.38) SAT Volume I Pamphlet 11.
    2. Light Machine Gun (Bren) SAT Volume I Pamphlet 4.
    3. Two-inch Mortar. SAT Volume I Pamphlet 8.
    4. No. 36 Grenade. SAT Volume I Pamphlet 13.

2. Characteristics and use of Weapons and Equipment special to the Arm or the unit with which the Cadet Corps is affiliated,—viz. Artillery, Tanks, Machine Guns, etc.

## SIGNALLING

1. Various methods of signalling. Phonetic alphabet and pronunciation of figures.

2. Either

    Semaphore Drill and Code. Sending and reading practice. Simple procedure signals. Message form. Pair work—Sending and receiving practice. 6 w.p.m.

    Or

    Morse code. Sending and receiving practice. Procedure signals. Message form. Buzzer practice 6 w.p.m. Lamp practice 4 w.p.m.

As an activity after school hours the remainder of the syllabus on page 20 RCAC Training Programme (1944) pamphlet may be followed.

## BASIC RADIO THEORY AND EQUIPMENT

The course in Grade XII is offered as a selection in schools where members of the staff have special knowledge through Service or other experience. It is recommended for schools whose Cadet Corps are affiliated with local units having suitable equipment. An outline for this topic is available from the Director of Cadet Training, Department of Education, Toronto.

## ADAPTATION OF THE COURSE FOR TWO-TEACHER, THREE-TEACHER OR FOUR-TEACHER SCHOOLS

Certain modifications of this course may be made in High or Continuation Schools of from two to four teachers. The Physical Education section of the course should be assigned one period each day when the weather is suitable for outdoor activities. As far as possible the prescribed course should be followed, preferably with the sexes separate. In inclement weather where suitable inside facilities are not available, this time may be reduced to three periods each week, and the Health Education Course and certain parts of the course in Cadet Training may be taught in the classroom.

The following modifcations in the Health Education and Cadet Training sections of the course are recommended:

1. The courses in Grades IX and X may be alternated, preferably with the sexes separate.
2. The courses in Grades XI and XII may also be alternated, preferably with the sexes separate.
3. Where boys and girls in Grades IX and X are taught together, the course as outlined for boys should be followed in the year in which the Grade X course is taken.
4. Where boys and girls of Grades XI and XII are taught together, the teacher should select suitable topics from either the boys' course or the girls' course or from both courses.
5. Where boys of all grades are taught together and girls of all grades are taught together, or where boys and girls of all grades are taught together, the teacher should select suitable topics from either the boys' course or the girls' course or from both courses.